

Personalized Learning Software



Students, educators, as well as parents or guardians can find a software assist from products designed by Analysis and Simulation, Inc. (AnSim) of Buffalo, New York.

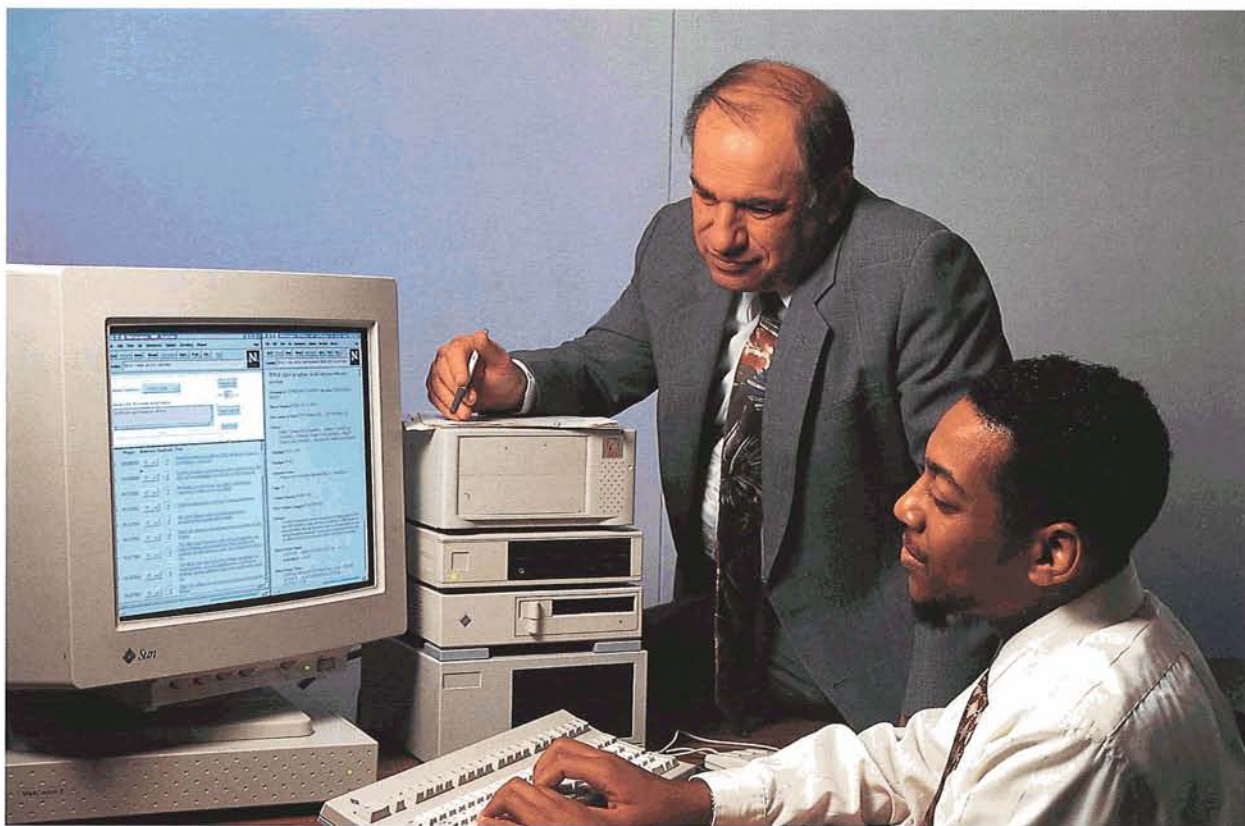
AnSim's IEPLANNER™ and TPLAN™ products are interactive computer-based systems. They can be run either independently or together as one complete system. Utilized as an Individual Education Plan tool, a user of IEPLANNER and TPLAN can define a goals list, while identifying a host of student demands in motor skills, social skills, life skills, social issues, even legal and leisure needs in the user's area. This computerized, expert tutor and advisor allows assessment of the status of the student and the degree to which his/her needs are being met.

These software tools made use of CLIPS (C Language Integrated Production System), a NASA-developed expert system shell which originated at Johnson Space Center. NASA offers a means of reducing automation costs through a special type of spinoff

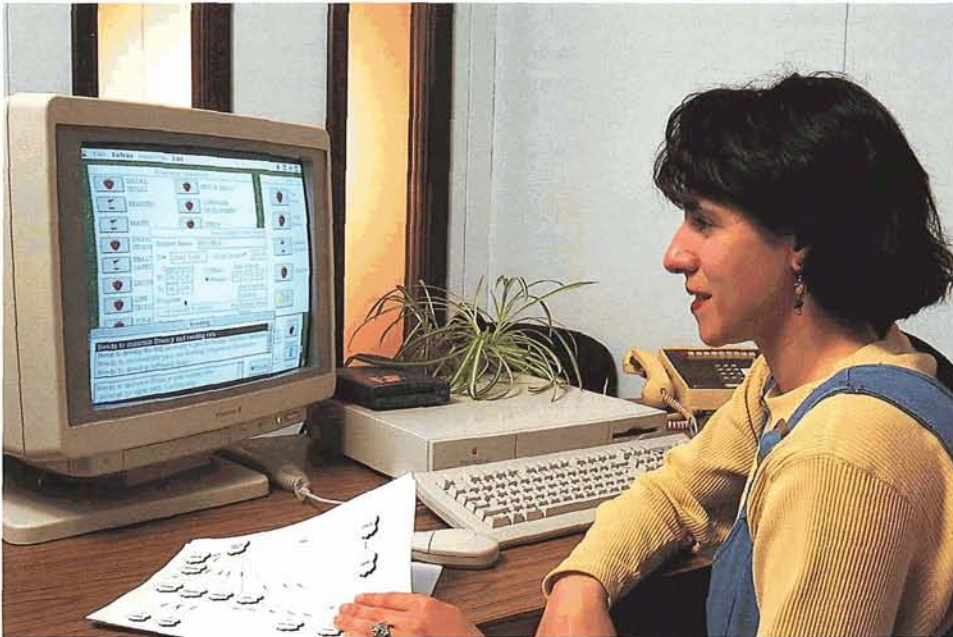
service operated by the Computer Software Management and Information Center (COSMIC®). COSMIC supplies to American businesses, like AnSim, at relatively low cost, government-developed computer programs that have secondary utility.

As a company goal, AnSim has focused on the formation of software technology applications for both contractual and commercial products utilizing capabilities in graphical user interfaces (GUIs), expert systems, and simulation. Paul Patti, president of AnSim says the company is exploring new ways to achieve more effective access to the vast and ever increasing amount of information available electronically. Strides by AnSim in computer software have been aided by Johnson Space Center Phase II Small Business Innovation Research (SBIR) funding and NASA work performed in expert systems.

Patti notes that wide area networks, such as the Internet, or just on large local system disks, vast quantities of data can be found. But how best can a



AnSim President Paul Patti watches as Jeffrey Meade demonstrates the graphical user interfaces capabilities of the company's software. AnSim developed the systems using CLIPS, a NASA-developed expert systems shell.



Social workers like M. Daniela Mariano use AnSim's IEPLANNER to assess and identify students' needs in order to develop individualized plans. The company is extending its work through a NASA Small Business Innovation Research contract on a World Wide Web 3D browser.

person sort through huge collections of material, then seek and rank information only of relevance that satisfies a distinctive need? That task can be likened to locating the proverbial "needle in the haystack."

NASA SBIR funding has supported AnSim's Human Memory Extension (HME^{tech}) technology. HME^{tech} software uses spreading activation models of human memory processes applied to context-sensitive information associations to characterize, rank, retrieve, and recharacterize information. The HME^{tech} system automatically and transparently builds and updates a persistent Memory Extension (ME) database of accessed documents. Document titles and other context summaries are parsed, meaning that grammatical form and function, a word or words in a sentence, are maintained by the HME^{tech}'s global database.

A user of this indexed meta-database can then retrieve ranked lists of documents via a key word or

term. A relevance feedback stage in the software permits the user to quickly zero in on pertinent documents.

A NASA Phase I SBIR has extended AnSim's work in the area of creating a World Wide Web 3D browser. This effort will develop a software prototype of a 3D interactive information visualization system. The software will integrate the ME technology for doing information ranking with a 3D windows-based interactive graphic user interface for doing information visualization.

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